Contents Index

VOLUME 68, NUMBER 1 JANUARY–FEBRUARY 1991

iii Instructions to Authors

v Acknowledgment of Reviewers

1 A Comparative Analysis of the Sulfur-rich Proteins of Durum and Bread Wheats—Their Possible Functional Properties. *K. Kobrehel, J. Bois,* and *Y. Falmet*

7 Steeping Maize in the Presence of Multiple Enzymes. I. Static Batchwise Steeping. *J. D. Steinke* and *L. A. Johnson*

12 Steeping Maize in the Presence of Multiple Enzymes. II. Continuous Countercurrent Steeping. *J. D. Steinke, L. A. Johnson, and C. Wang*

18 Enzymatic Activities and Rheological Properties of Stored Rice. *Y. S. Dhaliwal, K. S. Sekhon,* and *H. P. S. Nagi*

21 Changes in Endogenous and Exogenous Iron-Reducing Capability of Soybean Hull During Development. *J. A. Laszlo*

25 Properties of New and Commercial Sorghum Hybrids for Use in Alkaline-Cooked Foods. *H. D. Almeida-Dominguez, S. O. Serna-Saldivar,* and *L. W. Rooney*

31 Molecular Characterization of Cereal β-D-Glucans. Structural Analysis of Oat β-D-Glucan and Rapid Structural Evaluation of β-D-Glucans from Different Sources by High-Performance Liquid Chromatography of Oligosaccharides Released by Lichenase. *P. J. Wood, J. Weisz,* and *B. A. Blackwell*

39 Steamed Bread. II. Role of Protein Content and Strength. *K. Addo, Y. Pomeranz, M. L. Huang, G. L. Rubenthaler,* and *H. C. Jeffers*

43 Functionality of Date Paste in Breadmaking. *A. K. Yousif, I. D. Morton,* and *A. I. Mustafa*

48 Potential for β-Glucan Enrichment in Brans Derived from Oat (*Avena sativa* L.) Cultivars of Different (1→3),(1→4)-β-D-Glucan Concentrations. *P. J. Wood, J. Weisz,* and *P. Fedec*

51 Dry-Milling Properties of Maize. *C. Mestres, A. Louis-Alexandre, F. Matencio,* and *A. Lahlou*

56 Associations Among Quality Attributes of Red and White Soft Wheat Cultivars Across Locations and Crop Years. *C. S. Gaines*

60 Preparation of Frozen French Bread Dough with Improved Stability. *O. Neyreneuf* and *J. B. Van Der Plaat*

66 Changes in Free Amino Acids During Fermentation of Wheat Doughs Started with Pure Culture of Lactic Acid Bacteria. *C. Collar, A. F. Mascarós, J. A. Prieto,* and *C. Benedito de Barber*

72 Physicochemical and Functional Properties of Rye Nonstarch Polysaccharides. II. Impact of a Fraction Containing Water-Soluble Pentosans and Proteins on Gluten-Starch Loaf Volumes. *J. A. Delcour, S. Vanhamel,* and *R. C. Hoseney*

77 A Model for Estimating Loss of Wheat Seed Viability During Hot-Air Drying. *S. A. Giner, C. E. Lupano,* and *M. C. Añón*

81 Use of Fluorometry for the Determination of Uric Acid in Grain. Elimination of Interfering Fluorescence. *W. M. Lamkin, N. C. Unruh,* and *Y. Pomeranz*

86 Enzyme-Resistant Starch. III. X-Ray Diffraction of Autoclaved Amylomaize VII Starch and Enzyme-Resistant Starch Residues. *D. Sievert, Z. Czuchajowska,* and *Y. Pomeranz*

91 Comparative Study of Pollen Proteins of Rice by Isoelectric Focusing and High-Performance Liquid Chromatography. *S.-H. Chen*

Contents Index

VOLUME 68, NUMBER 1 JANUARY–FEBRUARY 1991

iii Instructions to Authors

v Acknowledgment of Reviewers

1 A Comparative Analysis of the Sulfur-rich Proteins of Durum and Bread Wheats—Their Possible Functional Properties. *K. Kobrehel, J. Bois,* and *Y. Falmet*

7 Steeping Maize in the Presence of Multiple Enzymes. I. Static Batchwise Steeping. *J. D. Steinke* and *L. A. Johnson*

12 Steeping Maize in the Presence of Multiple Enzymes. II. Continuous Countercurrent Steeping. *J. D. Steinke, L. A. Johnson, and C. Wang*

18 Enzymatic Activities and Rheological Properties of Stored Rice. *Y. S. Dhaliwal, K. S. Sekhon,* and *H. P. S. Nagi*

21 Changes in Endogenous and Exogenous Iron-Reducing Capability of Soybean Hull During Development. *J. A. Laszlo*

25 Properties of New and Commercial Sorghum Hybrids for Use in Alkaline-Cooked Foods. *H. D. Almeida-Dominguez, S. O. Serna-Saldivar,* and *L. W. Rooney*

31 Molecular Characterization of Cereal β-D-Glucans. Structural Analysis of Oat β-D-Glucan and Rapid Structural Evaluation of β-D-Glucans from Different Sources by High-Performance Liquid Chromatography of Oligosaccharides Released by Lichenase. *P. J. Wood, J. Weisz,* and *B. A. Blackwell*

39 Steamed Bread. II. Role of Protein Content and Strength. *K. Addo, Y. Pomeranz, M. L. Huang, G. L. Rubenthaler,* and *H. C. Jeffers*

43 Functionality of Date Paste in Breadmaking. *A. K. Yousif, I. D. Morton,* and *A. I. Mustafa*

48 Potential for β-Glucan Enrichment in Brans Derived from Oat (*Avena sativa* L.) Cultivars of Different (1→3),(1→4)-β-D-Glucan Concentrations. *P. J. Wood, J. Weisz,* and *P. Fedec*

51 Dry-Milling Properties of Maize. *C. Mestres, A. Louis-Alexandre, F. Matencio,* and *A. Lahlou*

56 Associations Among Quality Attributes of Red and White Soft Wheat Cultivars Across Locations and Crop Years. *C. S. Gaines*

60 Preparation of Frozen French Bread Dough with Improved Stability. *O. Neyreneuf* and *J. B. Van Der Plaat*

66 Changes in Free Amino Acids During Fermentation of Wheat Doughs Started with Pure Culture of Lactic Acid Bacteria. *C. Collar, A. F. Mascarós, J. A. Prieto,* and *C. Benedito de Barber*

72 Physicochemical and Functional Properties of Rye Nonstarch Polysaccharides. II. Impact of a Fraction Containing Water-Soluble Pentosans and Proteins on Gluten-Starch Loaf Volumes. *J. A. Delcour, S. Vanhamel,* and *R. C. Hoseney*

77 A Model for Estimating Loss of Wheat Seed Viability During Hot-Air Drying. *S. A. Giner, C. E. Lupano,* and *M. C. Añón*

81 Use of Fluorometry for the Determination of Uric Acid in Grain. Elimination of Interfering Fluorescence. *W. M. Lamkin, N. C. Unruh,* and *Y. Pomeranz*

86 Enzyme-Resistant Starch. III. X-Ray Diffraction of Autoclaved Amylomaize VII Starch and Enzyme-Resistant Starch Residues. *D. Sievert, Z. Czuchajowska,* and *Y. Pomeranz*

91 Comparative Study of Pollen Proteins of Rice by Isoelectric Focusing and High-Performance Liquid Chromatography. *S.-H. Chen*

95 Reversed-Phase High-Performance Liquid Chromatographic Separation of Wheat Proteinaceous Inhibitors of Insect and Mammalian α-Amylases. *G.-H. Feng, M. Chen, K. J. Kramer,* and *G. R. Reeck*

100 Effects of Processing and Usage Level on Performance of Bovine Plasma as an Egg White Substitute in Cakes. *C. C. Lee, L. A. Johnson, J. A. Love,* and *S. Johnson*

105 Frozen Bread Dough Ultrastructure as Affected by Duration of Frozen Storage and Freeze-Thaw Cycles. *P. T. Berglund, D. R. Shelton,* and *T. P. Freeman*

108 NOTE: Immunocytochemistry of Wheat Storage Proteins: Effect of Particle Size of Protein A-Gold on Labeling Intensity. *H. B. Krishnan, J. A. White,* and *S. G. Pueppke*

112 NOTE: Prediction of Wheat Kernel Texture in Whole Grains by Near-Infrared Transmittance. *P. C. Williams*

VOLUME 68, NUMBER 2 MARCH–APRIL 1991

115 Purification and Characterization of Lipoxygenase Isozymes from Wheat Germ. *K. Shiiba, Y. Negishi, K. Okada,* and *S. Nagao*

122 Characterization of Wheat Protein Fractions Differing in Contributions to Breadmaking Quality. *F. MacRitchie, D. D. Kasarda,* and *D. D. Kuzmicky*

130 Effect of Resistant Starch on Intestinal Responses in Rats. *G. S. Ranhotra, J. A. Gelroth, K. Astroth,* and *G. J. Eisenbraun*

133 Effects of Frost and Immaturity on the Quality of a Canadian Hard Red Spring Wheat. *K. R. Preston, R. H. Kilborn, B. C. Morgan,* and *J. C. Babb*

139 Comparison of the Structure and Composition of Water-Soluble Pentosans from Different Wheat Varieties. *M. Izydorczyk, C. G. Biliaderis,* and *W. Bushuk*

145 Physical Properties of Water-Soluble Pentosans from Different Wheat Varieties. *M. Izydorczyk, C. G. Biliaderis,* and *W. Bushuk*

151 A Critical Look at the Electric Resistance Oven. *H. He* and *R. C. Hoseney*

155 Characterization and Use of Samah in the Production of Flat Bread. *A. S. Amr*

159 Fortification of Balady Bread with Tomato Seed Meal. *A. A. E. Yaseen, M. H. A. S. El-Din,* and *A. R. A. El-Latif*

162 Chemical Composition of Seafood Breading and Batter Mixes. *R. M. Grodner, L. S. Andrews,* and *R. E. Martin*

165 Studies on Weaning Diets in Nigeria. I. Carbohydrate Sources. *S. R. A. Adewusi, B. O. Orisadare,* and *O. L. Oke*

170 A Volumeter for Breads Prepared from 10 Grams of Flour. *S. Vanhamel, L. Van Den Ende, P. L. Darius,* and *J. A. Delcour*

172 Thermal and Viscous Properties of Rye Starch Extracted from Different Varieties. *M. Gudmundsson* and *A.-C. Eliasson*

177 Semiwet Milling of Pearl Millet for Reduced Goitrogenicity. *C. F. Klopfenstein, H. W. Leipold,* and *J. E. Cecil*

180 Effect of Processing on Flavonoids in Millet (*Pennisetum americanum*) Flour. *J. O. Akingbala*

184 Oat Phenolics: Avenalumic Acids, a New Group of Bound Phenolic Acids from Oat Groats and Hulls. *F. W. Collins, D. C. McLachlan,* and *B. A. Blackwell*

190 Effect of Dietary Cereal Brans on the Metabolism of Trace Elements in a Long-Term Rat Study. *B. G. Shah, S. Malcolm, B. Belonje, K. D. Trick, R. Brassard,* and *R. Mongeau*

194 Bioavailability of Total Dietary Iron from Beef and Soy Protein Isolate, Alone or Combined, in Anemic and Healthy Rats. *D. Zhang, D. G. Hendricks, A. W. Mahoney, Y. Yu, A. M. Thannoun,* and *D. V. Sisson*

200 Immunological Distinction Between x-Type and y-Type High Molecular Weight Glutenin Subunits. *A. Curioni, A. D. B. Peruffo, G. Pressi,* and *N. E. Pogna*

205 NOTE: Corn Wet Milling with a Commercial Enzyme Preparation. *L. Du,* and *D. S. Jackson*

207 NOTE: Use of Size-Exclusion High-Performance Liquid Chromatography in the Study of Wheat Flour Proteins: An Improved Chromatographic Procedure. *I. L. Batey, R. B. Gupta,* and *F. MacRitchie*

210 NOTE: Effect of Physical, Physiological, and Chemical Factors on the Expression of Chalkiness in Rice. *G. N. Raju* and *T. Srinivas*

VOLUME 68, NUMBER 3 MAY–JUNE 1991

213 Effect of Navy Bean Protein Flour and Navy Bean Globulin(s) on Composite Flour Rheology, Chemical Bonding, and Microstructure. *N. L. Lorimer, M. E. Zabik, J. B. Harte, N. C. Stachiw,* and *M. A. Uebersax*

221 Total and Acid-Soluble β-Glucan Content of Hulless Barley and Its Relationship to Acid-Extract Viscosity. *R. S. Bhatty, A. W. MacGregor,* and *B. G. Rossnagel*

227 Extrusion Cooking of Corn Meal and Sugar Beet Fiber: Effects on Expansion Properties, Starch Gelatinization, and Dietary Fiber Content. *S. Lue, F. Hsieh,* and *H. E. Huff*

234 Effects of Fiber and Phytate in Sorghum Flour on Iron and Zinc in Weanling Rats: A Pilot Study. *H. I. Ali* and *B. F. Harland*

238 Application of High-Resolution Carbon-13, Oxygen-17, and Sodium-23 Nuclear Magnetic Resonance to Study the Influences of Water, Sucrose, and Sodium Chloride on Starch Gelatinization. *P. Chinachoti, V. A. White, L. Lo,* and *T. R. Stengle*

245 Gelatinization of Wheat Starch in the Presence of Sucrose and Sodium Chloride: Correlation Between Gelatinization Temperature and Water Mobility as Determined by Oxygen-17 Nuclear Magnetic Resonance. *P. Chinachoti, M.-S. Kim-Shin, F. Mari,* and *L. Lo*

248 Wet Milling of Corn Using Gaseous SO_2 Addition Before Steeping and the Effect of Lactic Acid on Steeping. *S. R. Eckhoff* and *C. C. Tso*

252 Effect of Added Pentosans on Some Physical and Technological Characteristics of Dough and Gluten. *J. Michniewicz, C. G. Biliaderis,* and *W. Bushuk*

258 Polyurethane Foams Extended with Corn Flour. *R. L. Cunningham, M. E. Carr,* and *E. B. Bagley*

262 Encapsulation of Atrazine Within a Starch Matrix by Extrusion Processing. *M. E. Carr, R. E. Wing,* and *W. M. Doane*

267 Stabilizing Brown Rice Products by Aqueous Ethanol Extraction. *E. T. Champagne, R. J. Hron, Sr.,* and *G. Abraham*

272 Chemical and Spectral Quantification of Mold in Contaminated Barley. *C. A. Roberts, R. R. Marquardt, A. A. Frohlich, R. L. McGraw, R. G. Rotter,* and *J. C. Henning*

276 Quantitation and Distribution of γ-Zein in the Endosperm of Maize Kernels. *E. Paiva, A. L. Kriz, M. J. V. V. D. Peixoto, J. C. Wallace,* and *B. A. Larkins*

280 Analysis of the Molecular Species of Glycerolipids from Rye Grains by Reversed-Phase High-Performance Liquid Chromatography. *Y. Mano, S. Nishiyama, M. Kojima, M. Ohnishi,* and *S. Ito*

284 The Relationship of Bromate Requirement and Sugars in Breadmaking and Implications for Loaf Volume Potential of Hard Red Spring Wheat Flours. *J. D. C. Figueroa* and *K. Khan*

291 Metabolic Effects of Insoluble Oat Fiber on Lean Men with Type II Diabetes. *J. W. Anderson, C. C. Hamilton, J. L. Horn, D. B. Spencer, D. W. Dillon,* and *J. A. Zeigler*

295 Evaluation of Enzyme and Chemically Treated Wheat Bran Ingredients in Yeast-Raised Breads. *B. A. Rasco, M. Borhan, J. M. Yegge, M. H. Lee, K. Siffring,* and *B. Bruinsma*

300 Influence of Poly (Ethylene-*co*-Acrylic Acid) on the Paste Viscosity and Gel Rheology of Cornstarch Dispersions. *G. F. Fanta* and *D. D. Christianson*

305 Relationships Between Gluten Protein Composition and Quality Characteristics in Four Populations of High-Protein, Hard Red Winter Wheat. *S. Primard, R. Graybosch, C. J. Peterson,* and *J.-H. Lee*

312 Identification of Wheat Lines Containing the 1BL/1RS Translocation by High-Performance Liquid Chromatography. *G. L. Lookhart, R. Graybosch, J. Peterson,* and *A. Lukaszewski*

317 NOTE: Interference of Phytate with Extraction of Protein from Brown Rice Using 5*M* Acetic Acid. *B. O. Juliano, A. Hussain, A. P. Resurreccion,* and *W. Bushuk*

319 NOTE: Starch Recovery from Steeped Corn Grits as Affected by Drying Temperature and Added Commercial Protease. *S. R. Eckhoff* and *C. C. Tso*

321 COMMUNICATION TO THE EDITOR: Model of Glutenin Structure Based on Farinograph and Electrophoretic Results. *P. K. W. Ng, C. Xu,* and *W. Bushuk*

VOLUME 68, NUMBER 4 JULY–AUGUST 1991

323 Emulsifiers and/or Extruded Starch in the Production of Breads from Cassava. *I. Defloor, C. De Geest, M. Schellekens, A. Martens,* and *J. A. Delcour*

328 Prediction of Physical Dough Properties from Glutenin Subunit Composition in Bread Wheats: Correlation Studies. *R. B. Gupta, F. Bekes,* and *C. W. Wrigley*

334 Gas Retention of Different Cereal Flours. *H. He* and *R. C. Hoseney*

336 Isolation of Gluten and Starch from Ground, Pearled Wheat Compared to Isolation from Flour. *Q. Zhuge, J. N. Persaud, E. S. Posner, C. W. Deyoe, P. A. Seib,* and *D. S. Chung*

339 Effect of Image Resolution on Insect Detection in Wheat Radiographs. *P. M. Keagy* and *T. F. Schatzki*

343 A Simple and Rapid Method to Measure Wheat Hardness by Grinding Time and Speed Reduction in a Micro Hammer-Cutter Mill. *Y. V. Wu* and *T. C. Nelsen*

347 Oscillatory Rheometry of Starch-Water Systems: Effect of Starch Concentration and Temperature. *L. M. Hansen, R. C. Hoseney,* and *J. M. Faubion*

351 Glutamate Dehydrogenase Activity and Isoenzymes, Protein, and Soluble Amino Acids in Developing Grains of High and Low Protein Rice. *B. B. Nanda, P. C. Mali,* and *S. B. Lodh*

353 Steamed Bread. III. Role of Lipids. *Y. Pomeranz, M. Huang,* and *G. L. Rubenthaler*

357 Classification of Wheat Kernels Using Three-Dimensional Image Analysis. *W. H. Thomson* and *Y. Pomeranz*

361 Identification of Modified High-Lysine Maize Genotypes by Reversed-Phase High-Performance Liquid Chromatography. *J. W. Paulis, J. A. Bietz, R. J. Lambert,* and *E. M. Villegas*

365 Fatty Acid Composition of Selected Buckwheat Species by Fluorometric High-Performance Liquid Chromatography. *W. Tsuzuki, Y. Ogata, K. Akasaka, S. Shibata,* and *T. Suzuki*

369 Glycine Derivatives as the Source of Carbon Dioxide in Cake Formulations. *J. A. Delcour, C. DeGeest, R. C. Hoseney,* and *K. Shelke*

372 Comparison of the Effects of Microwave and Conventional Cooking on Starch and β-Glucan in Rolled Oats. *S. H. Yiu, J. Weisz,* and *P. J. Wood*

376 Nutrient Distribution in Five Perennial Grain Species Exhibited by Light and Scanning Electron Microscopy. *D. W. Irving, J. L. Peake,* and *V. A. Breda*

383 Isolation and Characterization of α-Amylases from Endosperm of Germinating Maize. *D. A. Warner, M. J. Grove,* and *C. A. Knutson*

390 Removal of Sprouted Kernels from Hard Red Spring Wheat with a Specific Gravity Table. *R. Tkachuk, J. E. Dexter,* and *K. H. Tipples*

396 Effect of Solvent Extraction, Environment, and Genetic Background on Differentiating Rice by Reversed-Phase High-Performance Liquid Chromatography. *G. L. Lookhart, B. O. Juliano,* and *B. D. Webb*

401 Physical Properties and Processing Quality of Durum Wheat Fractions Recovered from a Specific Gravity Table. *J. E. Dexter, R. Tkachuk,* and *K. H. Tipples*

405 Moisture Adsorption of Damaged Wheat Starch. *C. Mok* and *J. W. Dick*

409 Response of Starch of Different Wheat Classes to Ball Milling. *C. Mok* and *J. W. Dick*

413 Effect of the Hard-to-Cook Defect and Processing on Protein and Starch Digestibility of Cowpeas. *Y.-H. Tuan* and *R. D. Phillips*

419 Characteristics of Extruded Mixtures of Cornmeal and Glandless Cottonseed Flour. *M. E. Camire, C. C. King,* and *D. R. Bittner*

424 Endogenous Factors Affecting Protein Digestibility in Buckwheat. *K. Ikeda, T. Sakaguchi, T. Kusano,* and *K. Yasumoto*

428 Removal by Specific Gravity Table of Tombstone Kernels and Associated Trichothecenes from Wheat Infected with Fusarium Head Blight. *R. Tkachuk, J. E. Dexter, K. H. Tipples,* and *T. W. Nowicki*

432 NOTE: High-Fiber White Flour and Its Use in Cookie Products. *G. S. Ranhotra, J. A. Gelroth,* and *G. J. Eisenbraun*

434 NOTE: Distribution of Fungal Biomass Among Fine Bran, Coarse Bran, and Flour from Wheat Stored at Four Different Moisture Levels. *J. Schnürer*

437 NOTE: Nutrient Content and Retention During Milling of Brown Rices from the International Rice Research Institute. *C. P. Villareal, J. W. Maranville,* and *B. O. Juliano*

VOLUME 68, NUMBER 5 SEPTEMBER–OCTOBER 1991

441 Dielectric and Thermal Transition Properties of Chemically Modified Starches During Heating. *L. A. Miller, J. Gordon,* and *E. A. Davis*

448 Effect of Dietary Cereal Brans on Body Weight and Blood Lipids in a Long-Term Rat Experiment. *R. Mongeau, R. Brassard, S. Malcolm,* and *B. Shah*

454 Computer Analysis of Fluorescence for the Measurement of Flour Refinement as Determined by Flour Ash Content, Flour Grade Color, and Tristimulus Color Measurements. *S. J. Symons* and *J. E. Dexter*

460 Functional Properties of Sorghum-Peanut Composite Flour. *U. Singh* and *B. Singh*

464 Effects of Kernel Size and Genotype on Popcorn Popping Volume and Number of Unpopped Kernels. *A. Song, S. R. Eckhoff, M. Paulsen,* and *J. B. Litchfield*

467 A Simple Antibody-Based Test for Dough Strength. I. Development of Method and Choice of Antibodies. *J. H. Skerritt*

475 A Simple Antibody-Based Test for Dough Strength. II. Genotype and Environmental Effects. *J. H. Skerritt*

482 Changes in Dry Matter and Protein Fractions During Kernel Development of Quality Protein Maize. *E. I. Ortega, E. Villegas, M. Bjarnason,* and *K. Short*

487 Endosperm Mutants in Rice: Gene Expression in Japonica and Indica Backgrounds. *R. P. Kaushik* and *G. S. Khush*

492 The Ultrastructure of Wheat Gluten: Variations Related to Sample Preparation. *T. P. Freeman, D. R. Shelton, J. M. Bjerke,* and *K. Skierkowski*

498 A Mechanism of Bread Firming. I. Role of Starch Swelling. *M. L. Martin, K. J. Zeleznak,* and *R. C. Hoseney*

503 A Mechanism of Bread Firming. II. Role of Starch Hydrolyzing Enzymes. *M. L. Martin* and *R. C. Hoseney*

508 Relationships of Selected Flour Constituents to Baking Quality in Soft White Wheat. *M. S. Kaldy, G. I. Rubenthaler, G. R. Kereliuk, M. A. Berhow,* and *C. E. Vandercook*

512 Electrophoretic Study of Some High Molecular Weight Proteins of the Acetic Acid-Insoluble Residue of Wheat Flours. *D. Sievert, H. D. Sapirstein,* and *W. Bushuk*

516 α-Amylase Inhibitors from Rice: Fractionation and Selectivity Toward Insect, Mammalian, and Bacterial α-Amylases. *G.-H. Feng, M. Chen, K. J. Kramer,* and *G. R. Reeck*

521 Gas Retention in Bread Dough During Baking. *H. He* and *R. C. Hoseney*

526 Differences in Gas Retention, Protein Solubility, and Rheological Properties Between Flours of Different Baking Quality. *H. He* and *R. C. Hoseney*

530 Molecular Characterization of Cereal β-Glucans. II. Size-Exclusion Chromatography for Comparison of Molecular Weight. *P. J. Wood, J. Weisz,* and *W. Mahn*

537 Enzyme-Resistant Starch. IV. Effects of Complexing Lipids. *Z. Czuchajowska, D. Sievert,* and *Y. Pomeranz*

542 Relation of Corn Grain Density to Yields of Dry-Milling Products. *Y. V. Wu* and *R. R. Bergquist*

545 Comparison of Two Models to Predict Amylose Concentration in Rice Flours as Determined by Spectrophotometric Assay. *P. S. Landers, E. E. Gbur,* and *R. N. Sharp*

548 Relative Lipidemic Responses in Rats Fed Barley and Oat Meals and Their Fractions. *G. S. Ranhotra, J. A. Gelroth, K. Astroth,* and *R. S. Bhatty*

552 NOTE: Evaluation of Alternative Fat and Sweetener Systems in Cupcakes. *L. Pong, J. M. Johnson, W. E. Barbeau,* and *D. L. Stewart*

556 NOTE: Fecal Bulking Effect of Whole Grain Flour from Selected Grains. *G. S. Ranhotra, J. A. Gelroth, B. K. Glaser,* and *C. S. Rao*

558 Erratum

VOLUME 68, NUMBER 6 NOVEMBER–DECEMBER 1991

559 Yield and Composition of Soluble and Insoluble Fractions from Corn and Wheat Stillages. *W. J. Lee, F. W. Sosulski,* and *S. Sokhansanj*

562 Wet Milling and Separation of Wheat Distillers' Grains with Solubles into Dietary Fiber and Protein Fractions. *F. W. Sosulski, W. J. Lee,* and *S. Sokhansanj*

565 Effect of Lime Treatment on the Availability of Calcium in Diets of Tortillas and Beans: Rat Growth and Balance Studies. *S. O. Serna-Saldivar, L. W. Rooney,* and *L. W. Greene*

570 Lipid Binding and Fatty Acid Distribution in Flour, Dough, and Baked and Steamed Bread. *K. Addo* and *Y. Pomeranz*

573 Immunocytochemical Localization of the Wheat Storage Protein Triticin in Developing Endosperm Tissue. *D. B. Bechtel, J. D. Wilson,* and *P. R. Shewry*

578 Starch Characterization of Nixtamalized Corn Flour. *M. H. Gomez, R. D. Waniska,* and *L. W. Rooney*

583 Discrimination of Sister-Line IR Rice Varieties by Polyacrylamide Gel Electrophoresis and Reversed-Phase High-Performance Liquid Chromatography. *F. R. Huebner, A. Hussain, G. L. Lookhart, J. A. Bietz, W. Bushuk,* and *B. O. Juliano*

589 Starch and Enzyme-Resistant Starch from High-Amylose Barley. *J. Szczodrak* and *Y. Pomeranz*

597 Effect of Cultivar and Environment on Quality Characteristics of Spring Wheat. *O. M. Lukow* and *P. B. E. McVetty*

602 Relationships Among Maize Quality Factors. *C. Dorsey-Redding, C. R. Hurburgh, Jr., L. A. Johnson,* and *S. R. Fox*

606 Exothermic Transitions in Whole Grain Milled Rice and Milled Rice Flour Studied by Differential Scanning Calorimetry. *W. E. Marshall* and *F. L. Normand*

610 Physicochemical Properties of Extrusion-Cooked Amaranth Under Alkaline Conditions. *J. M. Vargas-Lopez, O. Paredes-Lopez,* and *B. Ramirez-Wong*

614 Measurement of Endosperm Vitreousness of Corn: A Quantitative Method and Its Application to African Cultivars. *A. Louis-Alexandre, C. Mestres,* and *J. Faure*

617 Physicochemical and Functional Properties of Rye Nonstarch Polysaccharides. III. Oxidative Gelation of a Fraction Containing Water-Soluble Pentosans and Proteins. *C. J. A. Vinkx, C. G. Van Nieuwenhove,* and *J. A. Delcour*

622 Starch Gelatinization in Pasta Cooking: Differential Flux Calorimetry Investigations. *M. Riva, L. Piazza,* and *A. Schiraldi*

627 Studies on Frozen Doughs. I. Effects of Frozen Storage and Freeze-Thaw Cycles on Baking and Rheological Properties. *Y. Inoue* and *W. Bushuk*

632 Modification of Corn Fiber Through Chemical Treatments in Combination with Twin-Screw Extrusion. *L. Ning, R. Villota,* and *W. E. Artz*

636 Navy Bean Flour Fractions in Composite Doughs: Effect of Bean Grade on Rheology Parameters and Microstructure of Wheat Dough. *N. L. Lorimer, M. E. Zabik, J. B. Harte, N. C. Stachiw,* and *M. A. Uebersax*

641 Differences Between Flours in the Rate of Wheat Protein Solubility. *H. He, G. H. Feng,* and *R. C. Hoseney*

645 NOTE: Thermal Processing Effects on Dietary Fiber Composition and Hydration Capacity in Corn Meal, Oat Meal, and Potato Peels. *M. E. Camire* and *S. I. Flint*

647 NOTE: Determination of the Breakage Susceptibility of Lentil Seeds. *J. Tang, S. Sokhansanj,* and *F. Sosulski*

651 NOTE: Effects of Low-Level Gamma Radiation on Water-Soluble Nonstarchy Polysaccharides Isolated from Hard Red Spring Wheat Flour and Bran. *L. A. Grant* and *B. L. D'Appolonia*

653 Author Index, Volume 68

657 Subject Index, Volume 68

1 *Cereal Chemistry*® Editors and Staff

2 Contents Index, Volume 68